



Demographic analysis on social media usage among adolescents

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Abstract

In recent years, the widespread adoption of social media has garnered millions of users worldwide, becoming an integral part of daily routines for various reasons. India, ranking second globally in internet users, boasts a diverse social media and mobile audience. This study, conducted across four districts of West Bengal namely Hooghly, Howrah, North 24 Pgs and South 24 Pgs with a sample of 600 higher secondary school students in various government and private schools located in rural and urban areas. The main aim of the study is know the Social Media Usage among Adolescents with respect to some demographical variables. The data collection was done through Social Media Usage Scale developed by the researchers. The study's findings reveal compelling trends. Notably, a significant divergence in social media usage exists between boys and girls, signifying the role of gender in shaping adolescents' interactions with these platforms. Additionally, discernible variations in social media usage patterns emerge between students from urban and rural schools, emphasizing the impact of geographic location on the digital habits of adolescents. But, there is no significance difference was found between Arts and Science students with respect to Social Media Usage. These insights contribute significantly to our comprehension of the dynamic landscape of social media usage among Indian adolescents. The study underscores the importance of considering demographic factors, such as Gender, Location and Stream in scrutinizing adolescents' engagement with social media.

Keywords: social media, internet users, adolescents, demographic variables, digital habits dynamic landscape

Introduction

Adolescence denotes the transitional phase between childhood and adulthood, characterized by rapid growth and profound reorganization across various dimensions of human life. This pivotal period, commencing with puberty and concluding with the attainment of full growth, signifies a metamorphosis from childhood to maturity, impacting physical, social, intellectual, and emotional facets. The significance of adolescence lies in its transformative nature, where minor influences can steer individuals onto divergent paths.

In the contemporary digital age, computers and the internet have assumed a central role in human existence, with social media playing a prominent part in this landscape. The rise of social media platforms expands the horizons of experiences for adolescents, influencing their developmental trajectory. The prevalent use of social media websites has become a commonplace activity among today's adolescents, albeit with the potential for misuse and the risk of social media addiction (Masthi *et al.*, 2018) ^[16]. Integrating social media seamlessly into their daily lives, adolescents often perceive it as a routine habit (Purcell *et al.*, 2012) ^[19].

The majority of social media users belong to the teenage demographic, known as the digital generation. India, with an escalating number of social media users, boasts 197 million active users, constituting 14% of the population. Notably, the country leads in smart phone usage (Jayalakshmi *et al.*, 2017) and ranks as the second-largest mobile phone user nation with over 900 million users (Garelli & Ranu, 2017) ^[9]. A striking 92% of teenagers are actively engaged on social media platforms (Pew Research Centre, 2015), with studies pinpointing the 13–17 age group as particularly heavy users. Nearly three-quarters of adolescents aged 15 to 17 are smart phone users (Lenhart *et al.*, 2015; Pew

Research Centre, 2015) ^[15], emphasizing the pervasive influence of social media in the lives of today's youth.

Furthermore, amid the COVID-19 period, there has been an observed escalation in mobile gaming activity and an increased investment of time in gaming (Amin *et al.*, 2022) ^[3]. The notable surge in online mobile gaming can be attributed to the transformation of games into a social interaction tool, connecting users on a significant scale. This shift underscores the evolving role of games as not only sources of entertainment but also as platforms for social engagement.

Social media, a web-based platform, serves as a tool for users to establish and maintain social connections (Obar & Wildman, 2015) ^[17]. It is characterized as a group of internet applications rooted in the principles of web 2.0, facilitating the creation and exchange of user-generated content (Kaplan & Haenlein, 2010) ^[12]. The diverse nature of social media encompasses various online resources, allowing individuals to share a range of content, including videos, photos, text, ideas, opinions, news, and more (Drury, 2008) ^[6]. Through social networking sites, users can share their ideas, posts, activities, events, and interests, forming a dynamic digital space for social interaction (Dykeman, 2008) ^[7].

However, the impact of social media is dual-edged. Presently, students are allocating more time to different social networking platforms, utilizing them to express ideas, stay connected with friends and family, document significant life events, and acquire information from news agencies (Doleck *et al.*, 2018) ^[5]. This surge in social media usage raises concerns about its effects on the mental and physical well-being of young users. Addiction is a prevalent issue, with many users exhibiting signs of dependency. The adverse effects range from privacy and safety concerns to time consumption, health issues, psychological well-being, and academic performance (Khurana, 2015) ^[13].

Social media addiction, particularly among adolescents, has detrimental effects on physical and psychological health, impacting users' formative years and potentially compromising their quality of life. This addiction can lead to a lack of concentration, changes in thought processes, and alterations in brain anatomy (Ha *et al.*, 2017). Despite the negative discourse surrounding social media, there are positive aspects, such as facilitating access to educational content, video clips, and instructional notes (Siddiqui & Singh, 2016) [21]. Turel & Serenko (2012) [22] summarize three theoretical perspectives that explain social media addiction behaviors.

Gencer & Koc (2012) [10] delved into internet usage patterns and demographic characteristics, discovering that the proportion of females surpassed that of males in their study (Akbar *et al.*, 2019) [2]. Notably, gender differences in social media usage leaned in favor of males, as found in research by Azizi *et al.* (2019) [4]. Contrarily, a study by Koc & Gulyagci (2013) [14] indicated that the locale was not a significant predictor of social media usage.

Aggarwal (2019) [1] examined the purpose and impact of social networking sites among selected students aged 16 to 22 years, including teenagers from Punjab. Findings from Saikia & Kumar (2019) [20] highlighted that 23% of male students and 20% of female students cited motives such as chatting, obtaining exam and classroom-related updates, addressing personal issues, and seeking career guidance for their social media usage.

Objectives of the Study

Following objectives were identified for this particular study –

O1: To study the level of Social Media Usage of Higher Secondary School Students.

O2: To compare Social Media Usage of Higher Secondary School Students under different demographical variables like Gender (Boys and Girls), Location of School (Rural and Urban) and Stream (Arts and Science).

Research Question & Hypotheses

Drawing upon an in-depth analysis of pertinent literature from both Indian and International studies, the researchers has formulated the ensuing research question and hypotheses, harmonizing with the defined research objectives -

For Objective O1 following research question has been formed

RQ1: What is the level of Social Media Usage of Higher Secondary School Students?

For Objective O2 following research hypotheses have been formed –

H01: There is no significant difference in Social Media Usage between Boys and Girls Students at Higher Secondary Level.

H02: There is no significant difference in Social Media Usage between the students of Rural and Urban School at Higher Secondary Level.

H03: There is no significant difference in Social Media Usage between Arts and Science Students at Higher Secondary Level.

Methodology of the Study

Population

The researchers included all higher secondary school students of West Bengal as the population of the study.

Sample

The sample were selected randomly from the different schools of Hooghly, Howrah, North 24 Pgs and South 24 Pgs districts of West Bengal. The sample was comprise from 30 randomly selected schools and total 600 higher secondary school students were selected as sample for this study.

Variables

The present researchers had identified two types of variables for this research –

A. Major Variable: Social Media Usage

B. Demographical Variables

- **Gender:** Boys and Girls
- **Location of School:** Urban and Rural
- **Stream:** Arts and Science

Tool Used

Social Media Usage Scale (SMUS), prepared and standardized by the researchers, serves as a tool for evaluating adolescents' engagement with Social Media. Utilizing a five-point Likert scale, the tool was designed to measure the main four dimensions of Social Media Usage, including Motives, Beliefs, Addiction, and Malfunction, comprising a total of 32 items. The reliability of the scale was assessed using Cronbach's Alpha, yielding a value of 0.873, signifying a high level of reliability for the Social Media Usage Scale.

Data Collection Procedure

For conducting the research, data had been collected through survey technique. Thirty schools from Hooghly, Howrah, North 24 Pgs and South 24 Pgs districts of West Bengal were selected. Social Media Usage Scale (SMUS) was administered upon 600 higher secondary school students from those schools chosen under study and asked to response according to their own beliefs and thoughts without consulting with another student.

Descriptive Statistics of raw data collected

Table 1: Descriptive Statistics

Statistics	Social Media Usage
Minimum	88
Maximum	148
Mean	134.724
Median	133.00
Mode	128
Standard Error of Mean	0.717
Std. Deviation	6.218
Variance	201.342
Skewness	0.019
Kurtosis	0.027

Research Question and Hypotheses-wise Analysis of Data

1. Analysis of Data with respect to Objective 1:

O1: To study the level of Social Media Usage of Higher Secondary School Students.

For fulfillment of the above mentioned objective, one research question was formulated and tested which was as follows -

RQ1: What is the level of Social Media Usage of Higher Secondary School Students?

Table 2: Level of Social Media Usage Entire Sample

Variable	Mean	SD	Minimum Score	Maximum Score	No. of sample above Mean	No. of sample below Mean
Social Media Usage	134.724	6.218	88	148	394	206

Interpretation

From the Table 2, it is shown that mean score of Social Media Usage of 600 higher secondary school students was found 134.724 and Standard Deviation (SD) was 6.218. The minimum score of Social Media Usage Scale was 88 and maximum score of this scale was 148. The number of teachers above means score was found 394 and the number of teachers below means score was found 206. The level of Social Media Usage of Higher Secondary School Students is high.

2. Analysis of Data with respect to Objective 2

O2: To compare Social Media Usage of Higher Secondary School Students under different demographical variables like Gender (Boys and Girls), Location of School (Rural and Urban) and Stream (Arts and Science).

For fulfillment of the above mentioned objective, three null hypotheses were formulated and tested which were as follows -

H01: There is no significant difference in Social Media Usage between Boys and Girls Students at Higher Secondary Level.

H0 2: There is no significant difference in Social Media Usage between the students of Rural School and Urban School at Higher Secondary Level.

H0 3: There is no significant difference in Social Media Usage between the Arts Stream and Science Stream Students at Higher Secondary Level.

A: Testing of H01

Groups: Boys and Girls Students

Table 3: Group Statistics SMUS_Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Social Media Usage	Boys	375	139.21	8.321	1.056
	Girls	225	130.26	4.763	0.433

(SMUS = Social Media Usage Scale)

Table 4: Independent Samples Test of SMUS_Gender

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Social Media Usage	0.619	0.326	0.731*	598	0.014

(*significant at 0.05 level of significance)

Interpretation

From the analysis in Table 4, it is seen that in case of Levene's Test for equality of variances the calculated p value is 0.326 (p>.05). So, equal variance can be assumed. Table 4 also shows that in case of comparison of mean scores of Social Media Usage between Boys and Girls students at higher secondary level, the calculated $t_{(598)}$ value is 0.731 and 'p' value is 0.014 (p<.05). Hence, t is significant at 0.05 level. So, H01 is rejected it can be inferred that mean scores of Boys Students are significantly different from Girls Students in respect to Social Media Usage.

Testing of H02

Groups: Rural and Urban School Students

Table 5: Group Statistics SMUS Location of the School

	Location of the School	N	Mean	Std. Deviation	Std. Error Mean
Social Media Usage	RURAL	271	138.43	7.634	0.899
	URBAN	329	131.03	4.789	0.598

(SMUS = Social Media Usage Scale)

Table 6: Independent Samples Test of SMUS_ Location of the School

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Social Media Usage	1.032	0.432	1.061*	598	0.002

(* significant at 0.05 level of significance)

Interpretation

From the analysis in Table 6, it is seen that in case of Levene's Test for equality of variances the calculated p value is 0.432 (p>.05). So, equal variance can be assumed. Table 6 also shows that in case of comparison of mean scores of Social Media Usage between students of Rural and Urban School the calculated $t_{(598)}$ value is 1.061 and 'p' value is 0.002 (p<.05). Hence, t is significant at 0.05 level. So, H02 is rejected and it can be inferred that mean scores of Rural School Students are significantly different from Urban School Students in respect to Social Media Usage.

Testing of H03:

Groups: Arts and Science Stream Students

Table 7: Group Statistics SMUS_Stream

	Stream	N	Mean	Std. Deviation	Std. Error Mean
Social Media Usage	Arts	310	136.65	6.768	0.723
	Science	290	133.01	6.238	0.699

(SMUS = Social Media Usage Scale)

Table 8: Independent Samples Test of SMUS_ Stream

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Social Media Usage	0.832	0.541	1.083*	598	0.061

(# not significant at 0.05 level of significance)

Interpretation

From the analysis in Table 8, it is seen that in case of Levene's Test for equality of variances the calculated p value is 0.541 ($p > .05$). So, equal variance can be assumed. Table 8 also shows that in case of comparison of mean scores of Social Media Usage between Arts and Science School Teachers, the calculated $t_{(598)}$ value is 1.083 and 'p' value is 0.061 ($p > .05$). Hence, t is not significant at 0.05 level. So, H_0 is not rejected and it can be inferred that mean scores of Arts Students are not significantly different from Science Students in respect to Social Media Usage.

Major Findings

Building upon the outlined data analysis, the results are systematically organized to correspond with the predefined objectives as follows -

Finding related to Objective 1

The mean score of Social Media Usage Scale (SMUS) among 600 students was found 134.724. The range of this scale was from 88 to 148. So, the mean score is more than the average of this range. The level of Social Media Usage of Higher Secondary School Students is high.

Finding related to Objective 2

The second objective was to compare Social Media Usage of Higher Secondary School Students under different demographical variables like Gender (Boys and Girls), Location of School (Rural and Urban) and Stream (Arts and Science).

1. The mean score of Boys students are significantly different from Girls students in respect to Social Media Usage. Boys students' mean score (139.21) was higher than Girls students' mean score (130.26). It means that Social Media Usage of Boys students is significantly higher than Girls students.
2. The mean score of Rural school students are significantly different from Urban school students in respect to Social Media Usage. Rural school students' mean score (138.43) was higher than Urban school students' mean score (131.03). It means that Social Media Usage of Rural school students is significantly higher than Urban school students.
3. The mean score of Arts Students are not significantly different from Science Students in respect to Social Media Usage. Arts Students' mean score (136.65) was slightly higher than Science Students' mean score (133.01). It means that Social Media Usage of Arts Students is insignificantly higher than Science Students.

Conclusion

The demographic analysis of social media usage among adolescents provides valuable insights into the intricate interplay between individual characteristics and digital engagement. The study, based on a comprehensive examination of data from the four (4) districts of West

Bengal, sheds light on the nuanced patterns of social media involvement among adolescents. Gender disparities, urban-rural distinctions, and stream specific demographic variables have been identified as influential factors shaping adolescents' interactions with these platforms. The research underscores the need for a nuanced understanding of the diverse ways in which adolescents from different backgrounds navigate the digital landscape. Moreover, the study serves as a crucial foundation for educators, parents, and policymakers to formulate informed strategies for guiding adolescents in their online interactions, recognizing the potential impact on their holistic development and well-being. As we navigate the evolving digital era, these findings contribute to a more comprehensive understanding of the role social media plays in the lives of adolescents, and the implications it holds for their future.

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